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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/580,266

01/24/2007

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1830.1022

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21171 7590 03/19/2010
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EXAMINER

CHEN, VIVIAN

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

03/19/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/580,266 | Applicant(s) YATSUZUKA ET AL. | |
| | Examiner Vivian Chen | Art Unit 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 9-24, 26, 27 and 29-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 25-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>1/2/2008; 5/25/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species (a)(i) and (b)(iii) in the reply filed on 12/22/2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 9-24, 26-27, 29-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12/22/2009.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, the phrase "average of the cross-sectional areas. . . is 20,000 nm² or larger" is unclear and confusing (e.g., with respect to the phrase "larger first 20% domains", "are count down", etc.).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

AJIOKA ET AL (US 5,444,107),

in view of TOKIWA ET AL (US 6,669,771),

and in view of NANGERONI ET AL (US 6,183,814),

and in view of BASTIOLI ET AL (US 7,176,251).

AJIOKA ET AL discloses films form from a blend of polylactic acid and modified starch (e.g., esterified starch, etc.), and optionally plasticizers, other polymers, and other additives, wherein the polylactic acid is present in typical amounts of 60-90 parts by weight and the starch is present in typical amounts 10-30 parts by weight. (entire document, e.g., line 40-60, col. 2; line 1-33, col. 3; line 61, col. 3 to line 5, col. 4; Examples 1-3; etc.) However, the reference does not explicitly disclose the recited gloss values.

TOKIWA ET AL discloses that it is well known in the art to incorporate matting agents in polylactic acid-based compositions in order to modify the surface appearance of the film. (line 59-67, col. 6)

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NANGERONI ET AL discloses that it is well known in the art to modify the surface appearance of polylactide resin films and coatings with the use of rough-surfaced rollers in order to improve film handling properties. (line 55-62, col. 12)

BASTIOLI ET AL discloses that compositions comprising polylactic acid and modified starches typically have a multi-phase structure with the starch is the disperse phase and the polylactic acid is the continuous phase. The reference further discloses that it is well known in the art to incorporate 1-100 wt% of plasticizers (e.g., polyols with 3 or carbon atoms, optionally esterified with acids, etc.) in order to control and/or modify the mechanical and physical properties of the resin compositions. (line 5-10, col. 1; line 3-10, col. 2; line 61-68, col. 3; line 65, col. 4 to line 30, col. 5; line 31-40, col. 6)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use known additives and known film processing methods to reduce the gloss of the films of AJIOKA ET AL in order to produce matte films suitable for achieving specific aesthetic and/or decorative effects. It would have been obvious to incorporate effective amounts of plasticizers in order to optimize the mechanical and other physical properties for given end-uses. One of ordinary skill in the art would have incorporated effective amounts of known polymeric particles in the films and selected the size of said particles (claim 7) in order to tailor the film's visual, film handling, and/or surface characteristics for specific applications. It would have been obvious to laminate the films of AJIOKA ET AL to an additional film layer (claim 8) in order to provide increased strength, barrier properties, enhanced adhesive or sealing properties. One of ordinary skill in the art would have adjusted the dispersion of the starch

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phases in the polylactic acid resin (claim 5) to obtain specific optical properties (e.g., transparency, haze, etc.) and/or physical properties (e.g., impact resistance, tear strength, etc.).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over:

AJIOKA ET AL (US 5,444,107), in view of TOKIWA ET AL (US 6,669,771), and in view of NANGERONI ET AL (US 6,183,814), and in view of BASTIOLI ET AL (US 7,176,251).

as applied to claims 1-3 above,

and further in view of TANAKA (US 6,495,679).

TANAKA discloses that it is well known in the art to use modified starches with typical glass transition values of 80-140 deg C in order to improve combatibility between the starches and other resins (e.g., polylactic acid) and reduce the need for plasticizers. (line 55, col. 6 to line 30, col. 7)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use modified starches with Tg values of less than 140 deg C in order to retain desirable levels of compatibility and miscibility between the starch and polylactic acid resins and/or to minimize the amount of plasticizer required.

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over:

AJIOKA ET AL (US 5,444,107), in view of TOKIWA ET AL (US 6,669,771), and in view of NANGERONI ET AL (US 6,183,814), and in view of BASTIOLI ET AL (US 7,176,251).

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as applied to claim 1 above,

and further in view of MOULIES ET AL (US 4,871,506).

MOULIES ET AL discloses that it is well known in the art to form thermoplastic films by coextruding a first thermoplastic layer and a non-adherent second thermoplastic layer, followed by separating the two layers in order to form films with highly uniform thickness. (line 35-45, col. 1; line 27-36, col. 2)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a conventional processing method as disclosed in MOULIES ET AL to form films with a high uniformity in thickness from the AJIOKA ET AL blends.

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over:

AJIOKA ET AL (US 5,444,107), in view of TOKIWA ET AL (US 6,669,771), and in view of NANGERONI ET AL (US 6,183,814), and in view of BASTIOLI ET AL (US 7,176,251).

as applied to claim 1 above,

and further in view of DE 29710825 (DE '825) or LOERCKS ET AL (US 6,235,815).

DE '825 and LOERCKS ET AL discloses that it is well known in the art to use biodegradable resin compositions as to form wall covering materials in order to form environmentally friendly articles. (DE '825, English Abstract) (LOERCKS ET AL, line 23-37, col. 12; line 15-27, col. 13)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use films made from the blends of AJIOKA ET AL in known

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biodegradable film applications in order to produce environmentally friendly decorative and/or protective wall covering materials (e.g., wallpaper, etc.).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (571) 272-1506. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho, can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

The General Information telephone number for Technology Center 1700 is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 12, 2010

/Vivian Chen/

Primary Examiner, Art Unit 1794